

REMARKS

Claims 1 - 18 are pending in this application. By this Amendment, claims 1 - 3, 8, 10, 11 and 13 - 16 are amended. Attached hereto is a marked up version of the changes to the claims by the current amendment. The attachment is captioned "Version With Markings To Show Changes Made."

Entry of this amendment is proper under 37 C.F.R. §1.116 because the amendment: (a) places the application in condition for allowance, for the reasons set forth below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for an appeal, should an appeal be necessary. More specifically, the above amendments merely clarify that the at least one positive thermal coefficient switch is provided on an exposed exterior surface of the connector. This is similar to features recited in previous claims (such as dependent claims 2 and 3). Furthermore, claim 16 is amended to remove features. Independent claim 16 now recites a connector with similar features as the previously recited claims. Independent claim 16 further recites a plurality of leads/traces on the printed circuit board (similar to dependent claim 9 features). As such, independent claim 16 is similar to previously claimed features. In view of the foregoing, no further search and/or consideration is necessary. Entry is proper under 37 CFR §1.116.

The Office Action indicates that Figures 1 - 3 should be designated as -- PRIOR ART-- because only that which is old is illustrated. However, in response to applicants' previous statements that the Figures have not been identified as prior art, the Office Action has not provided any evidence to show these figures are prior art. Applicants do not intend to admit that anything is prior art. Furthermore, there is no Patent Office rule or procedure that requires that applicants label figures as prior art

when the figures are not known to be prior art. Applicants also note that the Office Action says the figures "should" be labeled. Thus, the Office Action does not require the labeling of the figures as Prior Art. However, in order to further prosecution, the attached Request for Approval of Drawing Corrections labels each of Figures 1 - 3 as Background Art. Withdrawal of this suggestion regarding the figures is respectfully requested.

The Office Action rejects claims 1 - 11 and 13 - 15 under 35 U.S.C. §102(e) by US Publication 2003/0013344 to Harris or, in the alternative under 35 U.S.C. §103(a) over applicants' admitted prior art (hereafter applicants' alleged prior art). The Office Action also rejects claim 12 under 35 U.S.C. §103(a) over Harris in view of U.S. Patent 6,305,987 to Crane, Jr. (hereafter Crane). The rejections are respectfully traversed.

As previously indicated, applicants have not admitted that Figures 1 - 3 are prior art. On page 6, lines 2 - 3 of the Office Actions asserts:

The Examiner considers the record as a whole to decide what is admitted prior art and what is not.

The Office Action appears to assert that because the applicants' have discussed problems that may be solved by our invention, that these problems are in the prior art and therefore the figures depict prior art devices. However, there is no suggestion that these are prior art devices. Further, contrary to the Office Action's statement on page 6, line 4, the present specification does not explicitly discuss problems included in the prior art. Applicants respectfully request that the Examiner cite published prior art references relating to these figures having appropriate effective dates/content showing that the arrangements discussed in Applicant's disclosure/paper(s) definitively are "Prior Art", i.e., it is the Examiner's burden to search/show unpatentability using published references with

appropriate teachings, and applicants do not desire to make any admissions as to prior art. As one example, these background devices discussed in the "Background" may have been developed one day prior to the filing day of the present application and by the inventors of the present invention. In this event, Figures 1 - 3 would not be prior art to the present application. Merely because applicants have discussed problems with respect to background art, there is no suggestion that these problems are prior art. In other words, applicants have not made any admission as to prior art. Furthermore, there is no indication of how these Figures 1 - 3 are prior art with respect to 35 U.S.C. §102 (since 35 U.S.C. § 103 requires that the invention is not identically disclosed or described as set forth in section 102). Therefore, the rejection with respect to applicants' admitted prior art should clearly be withdrawn.

Independent claim 1 recites a connector including at least one connector port in the connector to supply power or establish communications to a printed circuit board and at least one connector lead to connect the at least one connector port to the printed circuit board. The connector further recites at least one positive thermal coefficient switch provided as part of the connector on an exposed exterior surface of the connector and provided between the at least one connector port and the at least one connector lead to cut off communications or power and protect at least one circuit in the printed circuit board.

Harris does not teach or suggest all the features recited in independent claim 1. Harris shows a connector 10 having a cavity 14 in Fig. 1 and a connector 110 having cavities 114 and 126 in Fig. 2. As shown in Fig. 2, a separate printed circuit board 136 slides in the direction of arrow 158 to within a cavity 126 of the connector 110 such that the printed circuit board 136 contacts leads 116a-116h. See Harris' paragraphs [0054]-[0061]. Harris clearly shows that the printed circuit board 136 is

inserted within the cavity 126 of the connector. The printed circuit board 136 is not an exposed exterior surface of the connector. The Office Action asserts that the electrical components 152, 154 and 190 correspond to the claimed at least one positive thermal coefficient switch. However, the electrical components 152, 154 and 190 are provided on the printed circuit board 136 and are not part of the connector. Further, the electrical components 152, 154 and 190 are not provided on an exposed exterior surface of the connector. Rather, these components are on a circuit board within Harris' cavity 126. Thus, Harris does not teach or suggest at least one positive thermal coefficient switch provided as part of the connector on an exposed exterior surface of the connector and provided between at least one connector port and the at least one connector lead to cut off communications or power and protect at least one circuit in the printed circuit board, as recited in independent claim 1.

Additionally, Harris does not teach or suggest the at least one connector port to supply power or establish communications to a printed circuit board. The Office Action asserts that Harris' cavity 14 corresponds to the claimed connector port. However, the cavity 14 does not supply power or establish communications.

Additionally, even if "applicants' alleged prior art" were actually prior art, this "alleged prior art" still does not teach or suggest all the features of independent claim 1. That is, this "alleged prior art" does not teach or suggest that the at least one positive thermal coefficient switch is provided as part of the connector on an exposed exterior surface of the connector. The Office Action does not provide any prior art showing the at least one positive thermal coefficient switch. The Office Action states that it would have been obvious to modify "applicant's admitted prior art device" to reallocate switches from the PCB to the connector since it was held that forming in

one piece an article which has been formerly been formed in two pieces and put together involves only routine skill in the art. However, this is not proper motivation to modify a printed circuit board and a connector as alleged in the Office Action. That is, this rearrangement is more than simply rearranging mechanical parts. Rather, the PCB and connector would both be re-engineered in order to accomplish this alleged modification. Space on each of these components would have to be rearranged. Further, there is no motivation in the prior art as to where to put the positive thermal coefficient switch on the connector. Applicants submit that this motivation is improper and therefore the rejection based on "applicant's alleged prior art" should be withdrawn at least for this reason.

Harris and applicants' alleged prior art (as well as Crane) do not teach or suggest all the features of independent claim 1. For at least these reasons, it is respectfully submitted that independent claim 1 defines patentable subject matter. Each of independent claims 8 and 13 defines patentable subject matter for at least similar reasons as claim 1.

Independent claim 16 recites one connector to connect the at least one connector port to a plurality of leads/traces of the printed circuit board. Independent 16 further recites one positive coefficient switch provided as part of the connector and provided between the at least one connector port and the one connector lead to cut off communications or power and protect at least one circuit in the printed circuit board. Harris and applicants' alleged prior art, either alone or in combination, do not teach or suggest these features of independent claim 16. That is, Harris does not suggest one connector to connect the at least one connector port to a plurality of leads/traces of the printed circuit board in combination with one positive coefficient switch. Harris and applicants' alleged prior art do not suggest the coupling of one

connector port to a plurality of leads/traces on a printed circuit board. Thus, independent claim 16 defines patentable subject matter at least for this reason.

Claims 2-7 depend from claim 1, claims 9-12 depend from claim 8, claims 14-15 depend from claim 13 and claims 17-18 depend from claim 16 and therefore define patentable subject matter at least for this reason.

In addition, the dependent claims also recite features that further and independently distinguish over the applied prior art.

For example, dependent claim 2 (and similarly dependent claims 10, 14 and 17) recites that the at least one positive thermal coefficient switch is an axial leaded positive thermal coefficient switch embedded within the exposed exterior surface of the connector. Despite applicants' previous arguments on these claims, the Office Action does not even address this feature of the switch being embedded within the connector. Harris' elements 152, 154 and 190 are provided on the printed circuit board. This does not suggest a switch embedded within the exposed exterior surface of the connector as recited in dependent claim 2. Additionally, dependent claim 3 (and similarly dependent claims 11, 15 and 18) recites that the at least one positive thermal coefficient switch is a surface mounted positive thermal coefficient switch mounted on the exposed exterior surface of the connector. Despite applicants' previous arguments on these claims, the Office Action does not even address this feature of the switch being mounted on the connector. As stated above, Harris' elements 152, 154 and 190 are provided on the circuit board. This does not suggest a switch mounted on an exposed exterior surface of the connector as recited in dependent claim 3. Dependent claims 2-3, 10-11, 14-15 and 17-18 define patentable subject matter at least for these additional reasons.

Furthermore, dependent claim 9 recites a single connector lead of the plurality of connector leads is connected to a positive thermal coefficient switch of the plurality of positive thermal coefficient switches and is connected to a plurality of leads/traces contained within the printed circuit board and connected to the at least one circuit in the printed circuit board. Dependent claim 7 recites that the at least one lead/trace is a plurality of leads/traces connected to a connector lead of the at least one connector lead, and that the connector lead has a positive coefficient switch. The Office Action never addresses these features of dependent claims 9 and 7. For similar reasons as set forth above with respect to independent claim 16, Harris and applicants' admitted prior art does not teach or suggest that a single connector lead of the plurality of connector leads is connected to a plurality of lead/traces contained within the printed circuit board. Thus, dependent claims 9 and 7 define patentable subject matter at least for this additional reason.

For at least the reasons set forth above, it is respectfully submitted that each of claims 1 - 18 defines patentable subject matter. Withdrawal of the outstanding rejection is respectfully requested.

CONCLUSION

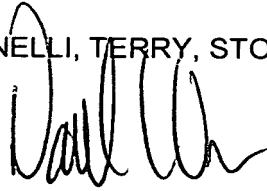
In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-18 are respectfully requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli,

Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 219.40436X00),
and please credit any excess fees to such deposit account.

Respectfully submitted,

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Attachment



VERSION WITH MARKINGS TO SHOW CHANGES

IN THE CLAIMS:

Claims 1 - 3, 8, 10, 11 and 13 - 16 have been amended as follows:

1. (Amended) A connector, comprising:

at least one connector port in the connector to supply power or establish communications to a printed circuit board;

at least one connector lead to connect the at least one connector port to the printed circuit board; and

at least one positive thermal coefficient switch provided as part of the connector on an exposed exterior surface of the connector and provided between the at least one connector port and the at least one connector lead to cut off communications or power and protect at least one circuit in the printed circuit board.

2. (Amended) The connector in claim 1, wherein the at least one positive thermal coefficient switch is an axial leaded positive thermal coefficient switch embedded within the exposed exterior surface of the connector.

3. (Amended) The connector in claim 1, wherein the at least one positive thermal coefficient switch is a surface mounted positive thermal coefficient switch mounted on the exposed exterior surface of the connector.

8. (Amended) A connector, comprising:

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at least one connector port in the connector to supply power or establish communications to a printed circuit board;

a plurality of connector leads to connect the at least one connector port to the printed circuit board; and

a plurality of positive thermal coefficient switches provided as part of the connector on an exposed exterior surface of the connector and provided between the at least one connector port and the plurality of connector leads to cut off communications or power and protect at least one circuit in the printed circuit board.

10. (Amended) The connector recited in claim 9, wherein the plurality of positive thermal coefficient switches are a plurality of axial leaded positive thermal coefficient switches embedded within the exposed exterior surface of the connector.

11. (Amended) The connector in claim 9, wherein the plurality of positive thermal coefficient switches are a plurality of surface mounted positive thermal coefficient ~~switch-switches~~ mounted on the exposed exterior surface of the connector.

13. (Amended) A connector, comprising:

at least one connector port in the connector to supply power or establish communications to a printed circuit board;

a plurality of connector leads to connect the at least one connector port to the printed circuit board; and

a plurality of positive thermal coefficient switches provided as part of the connector on an exposed exterior surface of the connector and provided between

the at least one connector port and the plurality of connector leads to cut off communications or power and protect at least one circuit in the printed circuit board, wherein a single connector lead of the plurality of connector leads is connected to a positive thermal coefficient switch of the plurality of positive thermal coefficient switches and is connected to a plurality of leads/traces contained within the printed circuit board and connected to the at least one circuit in the printed circuit board.

14. (Amended) The connector recited in claim 13, wherein the plurality of positive thermal coefficient switches are a plurality of axial leaded positive thermal coefficient switches embedded within the exposed exterior surface of the connector.

15. (Amended) The connector in claim 13, wherein the plurality of positive thermal coefficient switches are a plurality of surface mounted positive thermal coefficient ~~switch~~-switches mounted on the exposed exterior surface of the connector.

16. (Amended) A ~~system~~-connector comprising:
~~a printed circuit board having a plurality of traces; and~~
~~— a connector to couple one of a power supply and a communication device to the printed circuit board, the connector including:~~

at least one connector port in the connector to supply power or establish communications to a printed circuit board;

~~at least one connector lead to connect the at least one connector port to a~~
plurality of leads/traces of the printed circuit board; and

~~at least one~~ positive thermal coefficient switch provided as part of the connector and provided between the at least one connector port and the ~~at least one~~ connector lead to cut off communications or power and protect at least one circuit in the printed circuit board.